MAY 19 1944

Medical Library

Rhode Island MEDICAL JOURNAL

MAY, 1944

Programs of the Annual Meetings

• • •

May 24 and 25

RHODE ISLAND MEDICAL SOCIETY

See Page 230

• • •

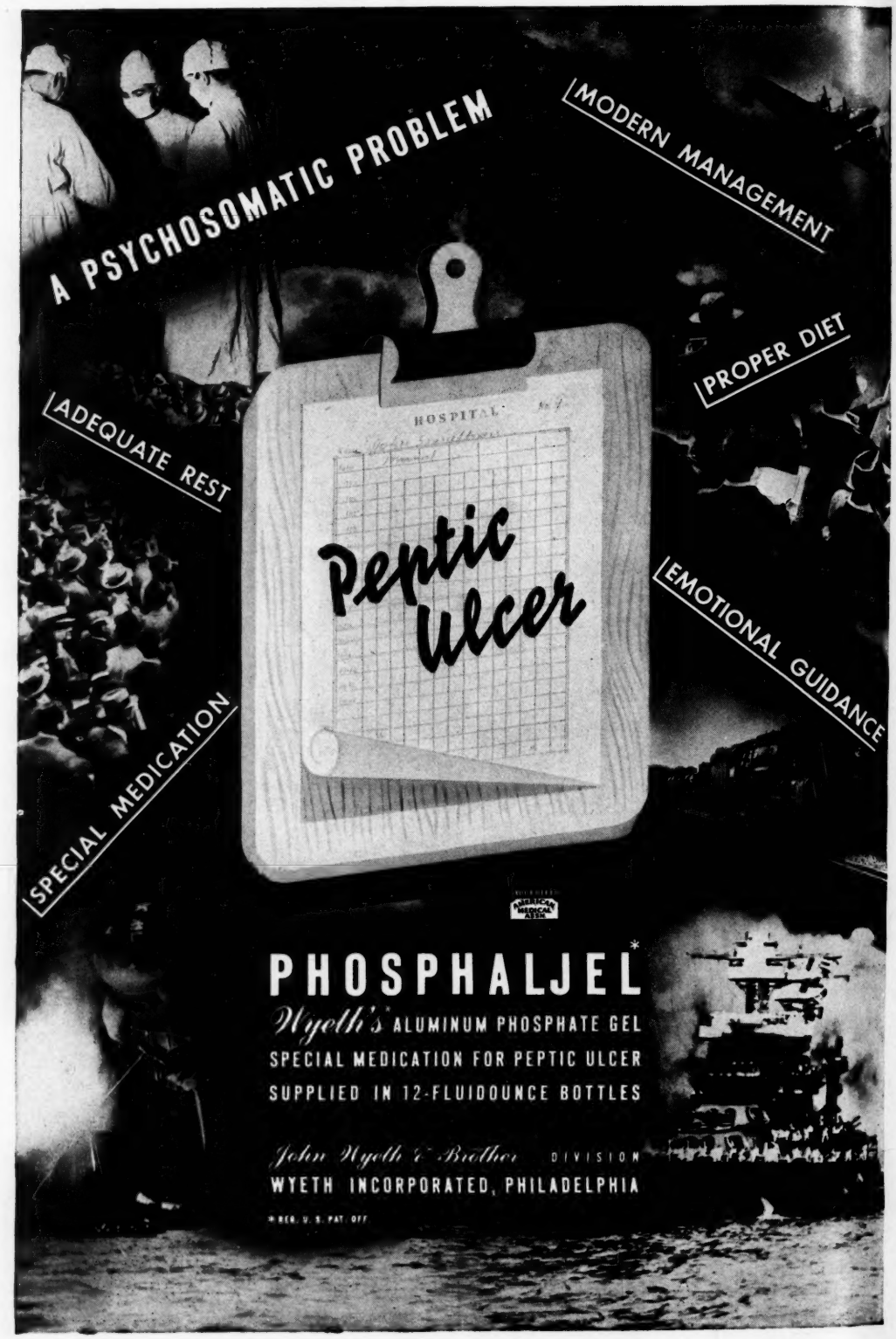
May 23

RHODE ISLAND INDUSTRIAL PHYSICIANS

See Page 232

Volume XXVII, No. 5 **Contents Page 207**

THE RHODE ISLAND MEDICAL SOCIETY
THE RHODE ISLAND DENTAL SOCIETY


A PSYCHOSOMATIC PROBLEM
MODERN MANAGEMENT
PROPER DIET
ADEQUATE REST
Peptic ulcer
EMOTIONAL GUIDANCE
SPECIAL MEDICATION
PHOSPHALJEL*
Wyeth's ALUMINUM PHOSPHATE GEL
SPECIAL MEDICATION FOR PEPTIC ULCER
SUPPLIED IN 12-FLUIDOUNCE BOTTLES
John Wyeth & Brother DIVISION
WYETH INCORPORATED, PHILADELPHIA
* REG. U. S. PAT. OFF.

The RHODE ISLAND MEDICAL JOURNAL

VOL. XXVII MAY, 1944 No. 5

NEWER DEVELOPMENTS IN THE CLINICAL AND LABORATORY ASPECTS OF LYMPHOGRANULOMA VENEREUM

CHARLES H. MANN, JR., M.D., DR.PH.

The Author. *Charles H. Mann, Jr., M.D., Dr.P.H., Former Epidemiologist, Massachusetts State Department of Health; Former Instructor, Public Health and Preventive Medicine, University of Michigan School of Public Health; Former Director of Communicable Diseases and Epidemiology, Idaho Department of Health; Director of Investigation of Anti-venereal Disease Products for E. R. Squibb & Sons, New York City.*

INTRODUCTION

DURING the past several years reports have come out of various countries indicating that lymphogranuloma venereum has world-wide distribution. The extent of this distribution, however, has been difficult to ascertain because of the confusion concerning terminology. Such synonyms as tropical or climatic bubo, lymphogranuloma inguinale or poradenitis, venereal lymphogranuloma, esthiomene, lupus vulvae, non-tuberculous granulomatous lymphadenitis, strumous or scrofulous bubo, chronic elephantiasis with vulvar ulceration, inflammatory stricture of the rectum, Nicolas-Favre disease, Fourth Venereal Disease and a Sixth Venereal Disease have been used at one time or another to designate the clinical syndrome which is now recognized generally as lymphogranuloma venereum.

The present day clinician is confronted by another problem associated with the early recognition of lymphogranuloma venereum. This involves the difficulty of recognizing it in the early or latent stages because of the frequency with which it is masked by the presence of other venereal diseases. In some cases the lesions are so similar to those of the other diseases transmitted by sexual intercourse that accurate diagnosis is practically impossible without the aid of a specific test. Recent publications on lymphogranuloma venereum have shown that earlier concepts concerning the causative agent, diagnosis, epidemiology and treatment of this disease were inaccurate in many respects, and it now becomes evident that methods of control must be altered to conform to the newer knowledge.

In the United States the known incidence of this venereal disease has justified further investigation of the laboratory and clinical aspects, and its recognition is being greatly simplified by the more general use of the intradermal and complement-fixation serologic diagnostic tests.

DEFINITION

Lymphogranuloma venereum may be defined as a wide-spread communicable disease usually acquired venereally. It is caused by a specific filtrable agent which can bring about infection in certain experimental animals. The infective agent usually gains entrance to the body through the skin or mucous membranes of the external genitalia or ano-rectal region. Usually, although not always, a small transitory herpetiform lesion is produced at the point of entrance. It may also gain entrance through the mouth or conjunctiva and rarely through other extragenital tissues. The incubation period is not firmly established but is considered to be from 1 to 3 weeks.

It is probable that the disease is much more common than is generally supposed, and perhaps more benign, with a natural tendency to spontaneous cure. It affects all races but shows greater incidence among the colored people in the United States. A higher incidence has been reported in males than in females although this may be apparent rather than real. The disease occurs more frequently within the age limits of greater sexual activity. Surveys indicate that a comparatively high percentage of those sexually promiscuous have been infected.

HISTORY

The history of lymphogranuloma venereum is little different from that of other venereal diseases,

continued on next page

Presented at the meeting of the Providence Medical Association on March 6, 1944.

inasmuch as it indicates that physicians of keen insight practicing as early as the latter part of the eighteenth century, observed that certain clinical entities occurred which differed in some respects from the manifestations of typical syphilis and showing no apparent response to the therapy then in vogue for spirochetal infection. In 1786, John Hunter described a condition in which buboes developed without apparent cause, were unaffected by mercury, and responded to salt water treatment. William Wallace, in 1833, accurately described what would now be regarded as a chronic suppurative case of the inguinal variety of the disease.[1]

During the years 1894 to 1896 this disease was thought to be due to climatic influences (chiefly tropical) and it was consequently named "climatic bubo." Rost, a German naval medical officer, in 1912 observed that midshipmen who went ashore in tropical ports under supervision never contracted "climatic bubo" but that the older marines who went alone did contract it; therefore, he suspected this bubo to be not of climatic but of venereal origin.[2]

In 1913, Durand, Nicolas and Favre[3] published their results of an 8-year study on clinical and pathologic aspects of a number of cases. They believed, erroneously, that the close resemblance of the histologic picture of Hodgkin's disease, or lymphogranulomatosis, to that of lymphogranuloma venereum warranted their introduction of the term "lymphogranuloma inguinale."

In 1925 Frei[4] introduced a specific skin test which opened the way for accurate identification of the disease. In his opinion, this discovery and that which he and Koppel found the relationship of esthiomene (from the Greek, meaning eating or eroding) and rectal stricture to venereal lymphogranuloma marked the end of the second step toward gaining definite knowledge about the disease. The third step, he states, "was the transmission of the disease to animals, especially through intracerebral inoculation of monkeys, by the Swedish scientists Hellerström and Wassen, in 1930. Their work has been continued by many investigators; above all by Levaditi, who introduced the mouse as the most suitable animal for the purpose and who was the first to demonstrate virucidal antibodies in the blood serum of infected men and animals."

In 1934 Grace and Suskind[5] introduced the use of the mouse brain infected with lymphogranuloma venereum as a cultural source of antigen for the intradermal test. This antigen of greater availability provided freedom from the several disadvantages associated with the utilization of human pus, but it was not the ideal product because a high percentage of the mouse brain controls gave nonspecific reactions, even though these were distinguishable from positive reactions. Further disadvantages were shown in the fact that the concentration of the agent in the brains of diseased mice is not high, and the possibility that antigens of animal origin may sometimes sensitize individuals to the animal proteins contained therein.

The final step in investigating the disease is now being taken, and is directed principally toward the cultivation and microscopic examination of the agent along lines similar to those being followed in investigating the agents of other diseases.

Noteworthy contributions in this newer field of investigation are those of Rake, McKee and Shaffer[6] of The Squibb Institute for Medical Research who, utilizing the technique of Cox[7] of the National Institute of Health, have cultivated the agent in the yolk sac of the embryonated chicken's egg and have obtained concentrated suspensions of elementary bodies. In this manner a highly purified and specific antigent, known as Lygranum S. T., has been prepared. It is rapidly supplanting antigens prepared from either human pus or infected mouse brain, for use in the Intradermal Test. These workers, alone[8] and in collaboration with Grace[9] have successfully used the yolk-sac antigen for the complement-fixation testing of the serum of infected patients. The specificity and sensitivity of this antigen (Lygranum C. F.) provides an additional means of detecting early cases of lymphogranuloma venereum.

Newer Aspects of Etiology

For more than three years some very revealing studies of the etiological agent associated with lymphogranuloma venereum have been carried on by Rake and his associates at The Squibb Institute for Medical Research. These workers have observed that there are similarities and differences among members of the lymphogranuloma-psittacosis group of infective agents, including the agents of lymphogranuloma venereum, trachoma, inclusion conjunctivitis or blennorrhea, psittacosis, human atypical or so-called virus pneumonia, acute meningo-pneumonitis and, experimentally, that of mouse pneumonitis. Microscopic examination of the various tissues infected with the agents of this group of diseases reveals striking morphological similarities as shown by the presence of elementary bodies (measuring 125-250 mu in diameter) and

which are easily seen at 1800 magnifications. Cyclical development of the various agents may also be observed with the exception of the agent of human atypical pneumonia which undoubtedly is somewhat smaller in size and occurs in many types similar in this respect to the types of pneumococcic pneumonia and that of acute meningo-pneumonitis which probably goes through such a cycle.

The tinctorial characteristics of these various agents show that all of them are gram-negative, all take on Giemsa's stain, and all, with the exception of the agent of trachoma and that of inclusion blennorrhea, accept Macchiavello's stain. A positive glycogen reaction is obtained in trachoma and inclusion blennorrhea but it does not occur in lymphogranuloma venereum and psittacosis. A remarkable predilection for certain types of tissues is exhibited by these various agents. The agent of lymphogranuloma venereum may attack genital, granulomatous, ocular and meningeal tissues; the agent of trachoma, ocular tissue; the agent of inclusion blennorrhea, ocular and genital tissues; the agent of psittacosis, lung tissue, and the agent of human atypical pneumonia, lung and meningeal tissues. Similar observations have been made on rodents and birds in all the diseases except trachoma and inclusion blennorrhea.

Similarities and differences exist among the various agents with regard to cultural characteristics. It has been repeatedly demonstrated that the agents of lymphogranuloma venereum, psittacosis and acute meningo-pneumonitis grow exceptionally well in the yolk sac of the developing chick embryo.

The problem of the control of all of these diseases with the exception of human atypical pneumonia becomes of greater importance when it is realized that a carrier state can occur. In other words, it is possible for the individual to harbor the agents of the several diseases without manifesting symptoms characteristic of them.

Further similarities and differences are demonstrated by the occurrence of cross reactions when the yolk-sac antigen of lymphogranuloma venereum is used in complement-fixation testing of the blood obtained from patients with any of the other diseases mentioned. The intradermal test performed with the yolk-sac antigen is known to cause a cross reaction with human atypical pneumonia cases, although this does not always occur probably because of the many different types which are associated with the disease.

The chemotherapeutic activity of sulfonamides on members of the lymphogranuloma-psittacosis group indicates that the agents of lymphogranuloma venereum, trachoma and inclusion conjunctivitis all show susceptibility, while those of atypical pneumonia, acute meningo-pneumonitis and psittacosis are not so influenced.

In view of these apparently unique characteristics, it seems justifiable to suggest that the agents belonging to the group, including the causative agents of lymphogranuloma venereum, trachoma, psittacosis, mouse pneumonitis, inclusion blennorrhea and certain atypical pneumonias in man, should be reclassified as the Lymphogranuloma-Psittacosis group to distinguish them, for practical purposes, from typical viruses.

Clinical Aspects

The clinical manifestations associated with infections caused by the agent of lymphogranuloma venereum have been described by many investigators. The observations of these individuals have been somewhat similar but there is some variation of opinion concerning the frequency with which the disease is manifested in different regions of the body. Nevertheless, it is generally agreed that the local manifestations of lymphogranuloma provide important clinical information which, in association with diagnostic tests, constitute the most reliable method of arriving at a correct diagnosis.

From one to three weeks after exposure the first clinical manifestation as commonly acquired by sexual intercourse, is the appearance of the primary or initial lesion (the so-called lymphogranulomatous chancre) at the portal of entry, usually on the genitalia. This lesion has been described[10] as a small herpetiform vesicle or ulcer, with clean edges and a whitish-gray base, circular or lenticular in shape, sometimes multiple, usually inconspicuous,[11] frequently transitory,[12] and often unobserved by the patient.

This lesion may last from three to twenty days but it is usually evanescent leaving no scar to indicate its occurrence. It apparently clears up without therapy. In some cases, however, it may become ulcerative bringing about erosive types of penile lesions, erosive vulval and vaginal lesions including esthiomene, elephantiasis of external genitalia and abacterial urethritis.

The inguinal variety of the disease usually occurs 10 to 30 days or even longer after exposure. Inguinal adenopathy is usually unilateral, but one-third of the cases show bilateral involvement. Inguinal buboes completely regress in about 20 to 25 percent of the patients who have received no

continued on next page

therapy, but the majority go on to suppuration with resultant formation of multiple sinuses and fistulae.[13] The disease in the suppurative phase becomes chronic and has been very resistant to any form of therapy.

The pelvic variety of the disease occurs particularly in the female following the involvement of the femoral lymph nodes which drain from the infected region of the vagina resulting in the spread of the agent by way of the lymphatics towards the perirectal glands.

Grace and Henry[14] and also Frei[2] have shown that most of the males suffering from the anorectal type of the disease have brought about the direct implantation of the agent in the anal or rectal mucosa through the practice of sodomy. It has been reported,[15] also, that adults and children of both sexes may acquire infection of the lower bowel by use of an enema tip which has been utilized by a person with the anorectal type of the disease. This has been demonstrated experimentally in the chimpanzee by Levaditi,[16] whose observations aid in confirming the belief that the mucosa of the lowest portion of the bowel provides an excellent medium for the growth of the agent of lymphogranuloma venereum.

In the female, some authorities[17] believe that rectal involvement apparently takes place as a direct extension of lymphogranuloma by way of the lymphatic vessels from the vagina to the rectum. A different viewpoint on the mode of acquisition of the anorectal type is offered by Bensaude and Lambling,[18] who are of the opinion that the disease begins in the perirectal tissues and spreads through the rectal wall into the mucosa. This is supported by their examination of 80 women with rectal stricture, of whom only 12 showed accompanying inflammation of the rectal mucosa. These authors reported, further, that in those patients with anorectal lymphogranuloma showing stricture and proctitis it could be assumed that the infection began in the rectal mucosa, and in those with stricture alone it began outside the rectal wall and traveled through to the mucosa.

Although reports of the occurrence of extragenital infections are few, recent evidence shows that such do take place with perhaps greater frequency than was previously believed. The earliest report was that by Klotz,[19] who described the case of a surgeon who was infected accidentally as evidenced by the development of a bubo in the axilla. Similar reports have been made by Hellerström[20] and Phylactos.[21] In 1921, Ravaut and Scheikevitch[22] reported 3 cases of lymphogranuloma which showed cervical adenitis, and they suggested that the tonsil might be the portal of entry of the agent. The diagnosis of these cases was doubtful, however, and but little attention was given to these observations. In 1931, Buschke, Boss and von Vasarhely[23] described a case of lingual lymphogranuloma, the accuracy of the diagnosis of which merits general acceptance. These authors observed that a man, 3 weeks after practicing cunnilingus, developed two small lesions on the side of the tongue and, in 5 weeks, a mass of enlarged glands on the side of the neck. Recently Harrop, Rake and Shaffer[24] have reported the occurrence of four cases among laboratory workers. It seems probable to these observers that two of the patients with cervical lymphangitis were infected via the upper respiratory tract and the third patient possibly through the skin of the hands.

Infections of the eye due to lymphogranuloma venereum have occurred, although very infrequently. Such infections, known as Parinaud's conjunctivitis, were originally reported by Levaditi, Bollack, Basch and Desvignes,[25] in 1936. Their article, titled "Conjunctivitis Without Adenopathy Due to the Virus of Nicolas-Favre Disease," is self-explanatory.

Another case of this type of infection has since been reported by Curth and his colleagues.[26]

Reports on localization of the agent of lymphogranuloma venereum in the meninges are exceedingly rare. The first such report was made by Chevallier and Bernard[27] (1932). A more recent report by Sabin and Aring[28] more completely establishes the diagnosis of meningoencephalitis caused by the agent of lymphogranuloma than does the earlier report of the French observers.

Constitutional Symptoms

Although the constitutional symptoms of lymphogranuloma venereum vary from patient to patient, it is generally believed that they are rarely absent during the stage of invasion of the lymphatic glands. Evidence that the inguinal region is involved is shown by the enlarged lymph nodes. In cases of anorectal involvement, the lesions occur approximately one month after the appearance of the anal discharge. The majority of the cases acquired by venereal exposure appear to be local or limited in nature, devoid of the acute systemic invasion phase. This latter phase probably occurs either when a large infecting dose of the agent is sustained in the body or when it is widely spread from the portal of entry. The antibodies appear

continued on page 243

BLOOD TRANSFUSION AND THE BLOOD BANK IN THE SMALL HOSPITAL

ORLAND F. SMITH, M.D.

The Author. *Orland F. Smith, M.D., Transfusionist, Memorial Hospital, Pawtucket.*

THE organization and maintenance of a blood bank in a small hospital is not possible without many difficulties. The grade of work, however, needs never to suffer, and progress is continuous with the closer cooperation of the staff and personnel.

The Pawtucket Memorial Hospital has a capacity of 166 beds, and yet has had a successfully operated blood bank for the past six years. During this time more than 2000 transfusions have been given. No deaths have occurred that could be attributed to the transfusion, and the total reactions of all types observed have been 4%, which is well under the 8% average generally accepted. This factor probably has been accounted for by an alert and very efficient laboratory staff, together with the meticulous attention to detail so necessary by other departments in carrying out the established routines in the preparation of a whole blood or plasma transfusion. The procedures which have functioned so smoothly and which have succeeded to the satisfaction of the entire Medical Staff are to be outlined.

The most serious difficulty in the maintenance of a blood bank is keeping the bank solvent. Patients who are given a blood transfusion have never been particularly interested in the source of the blood. The replacement of a pint of blood by a family seems very little to ask, and yet always proves to be a continual obstacle to the success of the bank. Then there are those people who have no close friends or relatives who might be asked to replace the blood or plasma. It seems many times as though these are the people that require multiple transfusions. They are also the same people who increase hospital deficits as well as strain the solvency of the blood bank. We have struggled with the donor problem since the inception of the bank, trying various community groups—pleading, begging and at times threatening relatives, and ending up against the same blank wall after an era of brief prosperity. The idea of buying blood has been entertained, and with two colleges close by this would be a possible satisfactory solution, but most of the students are members of a Navy or Army group, and either are not interested or are not permitted to indulge in such extra curricula activities as acting as blood donors.

The charge of $35.00 ($25.00 for ward patients) for a pint of blood has never dampened the attitude of the patient. Thirty-five dollars seems such a small sum even for the average worker today that they prefer to pay the bill in cash rather than blood. Many times have I made the statement that we cannot inject $35.00 into the veins of a dying man.

The service charge is $5.00 and the balance is payable if no blood donors are provided. $15.00 credit is allowed for each of the two bloods normally required to replace the blood used. The decision to require two donors to replace the blood given instead of three was made after a careful study of the averages attained in replacement during the years 1941 and 1942. During those years we required three donors for each transfusion, but the actual number of donors was 1.51 for each blood. On cutting down the required replacement donors from three to two the average jumped to 1.6 in 1943. This figure still was too small to increase the plasma reserve very fast.

Those facts and figures should also be the means of explaining to the minority staff member why more than one blood is necessary to replace the pint given to the patient in trouble.

Industrialization of Bank

The decision to industrialize the blood bank was made and the personnel directors of several industrial plants in the community were interviewed. The proposal in brief was for these plants to insure the solvency of the blood bank by supplying donors per year equivalent to ten per cent of their employees. The results after six months have indeed been most gratifying. The continual supply of blood has continued to flow, and new plants are

continued on next page

eager to be included. The ten per cent figure now seems higher than necessary and eventually five per cent will be closer to the requirements if it continues to thrive. In return for these bloods donated, all of the employees of the cooperating plants and their families are given credit of 50% of the required donor replacement for every transfusion given them while patients in the Memorial Hospital. As the program goes into the second half-year it appears that the benefits can be increased to 100% for these industrial groups and their families. The experience of donors to the Red Cross has done much to dispel fear among the prospective donors to the hospital.

The training of two graduate nurses was completed in a relatively short time and the technical work is done entirely by them, in addition to their other hospital duties. The blood is collected in the flasks prepared by the Cutter Laboratories. Likewise the plasma pooling and storage flasks are prepared aseptically by the same concern. Hemoglobin determinations are made prior to the withdrawing of blood, and all donors with a hemoglobin of below 10 grams are rejected. Hintons, typing and Rh factors are done on each blood as a routine procedure. These bloods are stored and used as whole blood for not longer than five days. On the sixth day the plasma is removed, and several specimens are pooled. We have had no experience with preserved blood and do not anticipate such a move in the future as long as fresh blood can be made available. The plasma is allowed to remain in the pooling flasks for eight to ten days and then transferred to the smaller "unit" flasks, each containing 250 cc. These pooled flasks of plasma each have a total protein determination made and recorded on each "unit" flask. A hemoglobin determination is made on each pooled specimen of plasma and rejected if it contains more than .75 grams. If all of the required tests are satisfactory the unit flasks are placed in a freezing unit and stored indefinitely. They are available at a moment notice, and can be thawed out and started into the veins of the patient within 20 to 25 minutes from the time ordered.

The mystery which has for many years been associated with the performing of a blood transfusion is very rapidly being dispelled by the ever increasing knowledge of the fundamentals of physiology so necessary for the practice of sound medicine and surgery. The progress of the war has accelerated research and relegated the transfusion of blood into the category of essential rather than heroic therapeutics. The discovery of the Rh factor by Landsteiner and Weiner in 1940 has added the most important milestone to the safety of the procedure since 1900. The determination of the Rh factor in the donor and the recipient should be as much a routine procedure as the blood typing itself. The agglutinogins A B and Rh are constant factors in red blood cells, and each deserves an equal observation before every transfusion.

The designation of the types of blood have for the past generation been accepted by the medical profession as falling into one of four main groups, designated by the League of Nations as O, A, B, or AB, with type O being the so-called universal donor of the International Nomenclature. Other methods of classification should now be only of academic interest, as attempts at comparison only serve as a means of confusing the doctor who gives an occasional transfusion. The more infrequent agglutinogens A2, A3, M, N, and P could be used as a means of designating many other types of blood. It is very reasonable to assume that with blood transfusion increasing at its present rate other new factors will be discovered which may in the generations to come set up a heterogenous mass of agglutinogens in which heredity will prove a strong influence. For the present, however we are content to make the transfusion of blood as simple as possible. The universal donor has been given a rating during the past thirty-five years that may well react in a similar manner. The fact that a type O blood contains both alpha and beta agglutins must be given more attention. I am of the opinion that all blood transfusions should be confined to the same groups, except in cases of emergency that cannot be reasonably and safely treated with blood plasma. Such an emergency is becoming more and more difficult to find and the transfusion experience in the war will surely startle the medical minds that have been reluctant to accept plasma.

Conclusions

1. The functioning of a blood bank in a small hospital is described in detail.

2. Experience with over two thousand transfusions has been recorded.

3. A new method of obtaining donors has been outlined.

4. A few observations by the author are recorded as a means of further reducing transfusion reactions.

References

1. Landsteiner and Weiner: An Agglutinable Factor in Human Blood Recognized by Immune Sera of Rhesus Blood. Proc. Soc. Exper. Biol. and Med. 43:223, 1940.

continued on page 221

AN INTERNE LEARNS OF PENICILLIN

CALVIN M. GORDON, M.D.

The Author. *Calvin M. Gordon, M.D., Rhode Island Hospital.*

(The following resumé of a talk on "Clinical Experience with Penicillin" given by Donald G. Anderson, M.D., research fellow in medicine at Evans Memorial Hospital, Boston, before the Providence Medical Association on April 3, 1944, was written by Calvin M. Gordon, M.D., and it is commended to the membership as an excellent piece of medical reporting by one of our internes—THE EDITORS.)

AT THE April meeting of the Providence Medical Association an extremely interesting discussion of the yet scarce drug penicillin was presented in the Library of the Rhode Island Medical Society. The program, which occupied the greater part of the evening, was shared equally by Dr. Anderson, of the Evans Memorial Hospital and by a dozen, more or less, representatives of the four hospitals in this city to which penicillin has been allotted.

Dr. Anderson in his brief talk gave a resume of the development of penicillin from its accidental discovery by Dr. A. Fleming in 1929 up to the widespread studies that have been going on, both in civilian and military life, during the past two to three years.

Most of his time, however, was spent in describing, in some detail, the results of experiments carried on by Dr. Keefer and himself at the Evans Memorial Hospital in connection with the National Research Council. Comment was made on the effectiveness of the drug, the dosage, excretion, blood level, toxic reactions and methods of administration, all of these being made very clear by the excellent lantern slides accompanying his talk.

Much work has been done on the various modes of administration, the dosage required and the subsequent excretion of the drug. In discussing this he emphasized the fact that the various infections must be subdivided to include in one category those which affect a serious space, such as the joints, empyema cavity, subdural space, etc., into which penicillin does not seem to penetrate, in contrast to a more generalized infection such as pneumonia, bacteremia and similar conditions. Speaking of these methods, he emphasized the uselessness of oral administration due to the inactivation of the drug by the gastric juice.

Evidence seems to have been accumulated that in the former, direct local application of the drug must be made to obtain the desired results. Just as the drug does not seem to penetrate from the blood stream to these spaces, so it does not seem to be absorbed rapidly. Levels taken at various intervals following the topical administration show the rate of decline to be extremely slow with a concentration effective against most organisms being maintained for 20-24 hours. Doses of 10-20 thousand units, once or twice a day, placed directly in the affected joint or cavity would then seem to be sufficient to defeat or at least localize the disease process.

In contrast to this method of treatment however, the administration of the drug in generalized systemic disease must be directed toward administering a dose, large enough to cause an effective blood level, often enough to maintain this level. For this three different methods have been tried with the formulation of a rather definite plan of therapy.

Methods of Administration

In the first place, it might be well to speak of and dispense with a method which, although effective, has some drawbacks, namely the subcutaneous route. Using this method it was found that a rather low level was obtained but was maintained over a considerable period of time. Although this sounds to be a feasible method of administering penicillin it has the main drawback of being extremely irritating.

Repeated intravenous administration, on the other hand, was found to produce an optimal level in the blood stream a few minutes after each injection with a subsequent sharp decline in the concentration of the drug. Studies instituted at this time revealed that after 15 minutes approximately 75% of the drug had been excreted and that after 30 minutes almost 90% had left the blood stream.

continued on page 236

CROOKED TEETH

DONALD D. OSBORN, D.M.D.

NORMAL occlusion is a state of balance and harmony of the teeth, jaws and surrounding tissues and parts. Under favorable conditions of growth, development and inheritance these parts often combine in such a manner that, as a unit, they present a pleasing symmetry of beauty and form. In such instances we are deeply impressed by such a harmonious relationship for it is that part of us which meets "the world's eye" and determines to a very great extent the kind of treatment accorded us throughout life.

All of us are endowed at birth with certain basic physical and mental qualities which determine the degree of growth, development and physical perfection that our bodies will attain during life. Yet, this normal process is continually subjected to a great many external and internal forces which influence and modify the naturally endowed body pattern. Sometimes these changes may be beneficial to the growing child, but more often than not they are harmful and produce disturbances in the form and relationship of the underlying structures including those of the face, resulting in facial malformations and inharmonies.

Physicians, dentists and other scientific investigators have studied the development and growth of the face and jaws, recording their observations, so that medical and dental care of the people may be placed on a rational basis. It has been estimated that the face of an infant is 42 per cent of its ultimate size; while a larger part of the facial growth takes place in the region of the mouth and jaws, particularly during those periods when the deciduous teeth, and later the permanent ones, appear.

Factors in Face and Jaw Development

Observation and study of this growth have shown that numerous factors seriously affect the normal development of the face and jaws. Many of the causes are not fully understood, perhaps because of their complexity, but critical study of them has shown that early loss of teeth through neglect and decay; pernicious habits during infancy such as thumb and finger sucking; congenital defects including enlarged tongue, missing teeth, hare lip and cleft palate; and accidents involving destruction or mechanical injury of the parts are potent factors in producing them. Occasionally, endocrine disturbances are revealed through dental anomalies so the services of a medical specialist are needed.

Within the present century, the orthodontist has developed diverse means of combating the many dental and facial deformities that occur. The dentists who specialize in this field of practice are practically unanimously agreed that early periodic observation and care of children's teeth is the safest way of preventing deformities. Advice should be sought, when the twenty deciduous teeth have fully erupted, from a competent dentist. Even at this early age extreme deformities are recognizable, while the orthodontist can decide the advisability of their immediate or later treatment. As a general rule the greatest percentage of children who need corrective treatment should have orthodontic treatment instituted by the ninth year or when the four upper and lower incisors have erupted.

In the past, when a child showed abnormal dental development, it was generally believed nature should take its course and the child would, perhaps, outgrow the deformity. Today, investigations have shown conclusively that this belief is usually wrong; for only, in rare instances, does a dental deformity correct itself. Such rarity does not warrant observing a case without orthodontic intervention until the child is too old for the best results possible. It is much more advisable to seek the counsel of a specialist in deciding whether treatment is, or is not, indicated.

Psychological Reactions

One of the greatest handicaps in childhood, as well as in adult life, is to be different than one's fellows. While we in America believe in freedom, we also demand conformity. Upon analysis, we discover that certain costumes, habits, and fads become popular only because of our tendency to conform to the demands of current opinion; while those who are different must be prepared to suffer the consequences. Likewise the child whose facial appearance is different from the normal will tend

to withdraw from his playmates. He becomes moody and his physical as well as mental well being suffers. Also in the critical period of adolescence, with its maturing influences of companionship, dental deformities frequently are a grave barrier. If tolerated without correction, this state of affairs may cause certain psychological reactions disturbing to one's mental security. It creates unfavorable complexes of inferiority which may seriously affect or perhaps ruin an entire career. While there are persons who were deformed or whose faces were, to say the least, unattractive but who were, nevertheless, very successful in life, in almost every case we find that these persons were possessed of great talent. They were bound to succeed in spite of all handicaps. In any event, their poor facial appearance certainly was no asset to them.

Although the appearance is an important factor, other benefits are derived from a normal relationship of the teeth and jaws. They provide the efficient grinding and preparation of food before it is swallowed. Any position of the teeth which impairs mastication strikes directly at normal digestion and places an added burden on other organs to carry, which are sooner or later liable to revolt because of being overburdened, and fail in their own functions.

Normal occlusion helps preserve the teeth against the increased probability of decay and prevents the development of diseases of the soft tissues surrounding the tooth roots. When not in their correct positions, the teeth may suffer the erosive effects of disuse or the wear and tear of over-use with a final breaking down of the entire dental organ.

And so it can be seen that a state of balance and harmony of the teeth, jaws and surrounding tissues and parts results in a healthy mouth which protects one of the most vulnerable parts of the human body against numerous inroads of disease and fosters health and usefulness.

BLOOD TRANSFUSION AND BLOOD BANK

continued from page 218

2. Report of the Committee on Medicolegal Blood Grouping Tests. J. A. M. A., 108:2138, 2215 (1937).

3. Practical Problems in Blood Grouping and Transfusion. R. F. Peterson—Journal Lancet 63:215-217 July 1943.

4. Revised Principles. P. L. Mollison—Proc. Roy. Soc. Med. 36:335-336 May, 1943.

5. Blood Banks and Blood Transfusion. J. F. Ross—N. E. Journ. Med. 230:171-175, 195-198 March, 1944.

Excellence in War Production

FOR supplying Mercurochrome and other drugs, diagnostic solutions and testing equipment required by the Armed Forces, for developing and producing Sterile Shaker Packages of Crystalline Sulfanilamide especially designed to meet military needs, and for completing deliveries ahead of contract schedule—these are the reasons for the Army-Navy "E" Award to our organization.

The effectiveness of Mercurochrome has been demonstrated by more than twenty years of extensive clinical use.

For the convenience of physicians Mercurochrome is supplied in four forms—Aqueous Solution for the treatment of wounds, Surgical Solution for preoperative skin disinfection, Tablets and Powder from which solutions of any desired concentration may readily be prepared.

Mercurochrome (H. W. & D Brand of dibrom-oxymercuri-fluorescein-sodium) is economical because stock solutions may be dispensed quickly and at low cost by the physician or in the dispensary. Stock solutions keep indefinitely. Literature furnished to physicians on request.

HYNSON, WESTCOTT & DUNNING, INC.

BALTIMORE, MARYLAND

The RHODE ISLAND MEDICAL JOURNAL

Owned and Published Monthly by the Rhode Island Medical Society,
106 Francis Street, Providence, Rhode Island

EDITORIAL BOARD

PETER PINEO CHASE, M.D., *Editor-in-Chief,* 122 Waterman Street, Providence
JOHN E. FARRELL, *Managing Editor,* 106 Francis Street, Providence

CHARLES BRADLEY, M.D.	East Providence	EDWARD B. MEDOFF, M.D.	Woonsocket
ALEX M. BURGESS, M.D.	Providence	EMERY M. PORTER, M.D.	Providence
JOHN W. HELFRICH, M.D.	Westerly	MARY E. ROHR, M.D.	Pawtucket
LUCIUS C. KINGMAN, M.D.	Providence	ALFRED M. TARTAGLINO, M.D.	Newport
JOHN LANGDON, M.D.	Providence	GEORGE W. WATERMAN, M.D.	Providence
GEORGE L. YOUNG, M.D.	East Greenwich		

COMMITTEE ON PUBLICATION

ALFRED L. POTTER, M.D., *Chairman,* Providence

JOHN F. KENNEY, M.D.	Pawtucket	MICHAEL H. SULLIVAN, M.D.	Newport
AUGUSTINE W. EDDY, M.D.	Woonsocket	WILLIAM P. BUFFUM, M.D.	Providence

CHARLES V. CHAPIN ORATION

The action of the Providence City Council in adopting an ordinance within the past month to create a standing committee to cooperate with the Rhode Island Medical Society in perpetuating the memory of Dr. Charles V. Chapin, superintendent of health in Providence for 48 years, and honored all over the world as the foremost city health officer of all, is singularly appropriate.

For his life-time of labor in the field of medicine Dr. Chapin received citations and awards such as are given to few men in their respective fields. In his 48 years of service as Superintendent of Health in Providence he revolutionized long accepted theories of sanitation to appreciably reduce the dangers of communicable disease. Through his efforts the City of Providence became known throughout the world for its progressive work in health, for during his administration the first municipal laboratory in the country was established, the first experiments in filtering water by mechanical filtration were made, and the City became the first city to discontinue fumigation as a form of terminal disinfection in the prophylaxis of contagious disease, a step that subsequently won public praise from the hygiene section of the League of Nations at Geneva.

In tribute to his numerous contribtuions to the science of medicine and particularly his service to his native city and the City Hospital, the name of that institution was changed to the Charles V. Chapin Hospital in 1932 by recommendation of the board of hospital commissions and with the unanimous recommendation of the City Council. Now the last named body has again contributed willingly to the plan of the Rhode Island Medical Society to perpetuate Dr. Chapin's name throughout the country by means of the annual oration given as part of the annual program of the Society. Started two years ago with the oration by Dr. Timothy Leary, professor of pathology at Tufts College, and continued last year with the outstanding oration on "Contagious Diseases" by Dr. Edwin H. Place, the Chapin oration takes on new significance this year, and in the years ahead.

In perpetuating the name of Chapin the Society adds further lustre to the great achievements of the doctors of medicine of this State, and the City of Providence keeps alive throughout the nation the knowledge of its progressiveness in the field of public health.

PRESCRIBING LUXURIES

It's harping on an old story. Do they need more gas or tires for transportation, more heat in their house, more red meat? Have their physician write them a prescription.

Frequently we can persuade ourselves that these needs are genuine. But how often have we really believed that a patient needed 40% cream? If we like a sturdy cup of morning coffee, chewy cream certainly does not thin it. For dainty desserts the heavy cream whips up the best, we believe. However, these are luxuries, not therapeutic needs. The council on Foods and Nutrition says that only in a ketogenic diet is heavy cream necessary and the ketogenic diet is necessary practically only in epilepsy, and this can be attained by the use of butter, etc. So apparently there is infinitesimal chance of hardship if no longer are prescriptions written for the heavy cream.

It has been stated that half a million quarts of milk daily are going into heavy cream on doctor's prescriptions in New York City. The owner of a herd in this state giving milk of the heaviest cream content says that it takes about 10 quarts to produce one quart of 40% cream. It might require as high as 14 quarts from some herds. So the wastage is terrific especially in this section where the uses of skim milk are presumably restricted.

It was a wise person who said, "Let me have the luxuries of life and I can get along without the necessities." But it is being repeatedly demonstrated even in this calm overpaid section of the globe that the opposite is true although an unpleasant truth.

The medical profession should cooperate to keep down the use of heavy cream, and if the responsibility is largely lifted from our shoulders by more stringent regulations we will presumably welcome that very minor interference with the rights of the individual.

COSTLY "REHABILITATION"

A year ago last month the General Assembly enacted legislation to provide for the establishment of a special curative centre for the rendering of physical therapy, psychotherapy and occupational therapy for beneficiaries under the workmen's compensation act who might require such services.

In the year that has elapsed approximately fifty thousand dollars has been paid into the fund by insurance companies and self-insurers. With the money thus acquired the State, through the Department of Labor, has acquired a large East Side estate as the structure to house the centre.

In twelve months' time the advisory board has not been named by the director of labor. No medical director has been appointed, nor for that matter any other personnel. No one has been treated at the "centre", and apparently no one will be treated for some time to come if present indications are any barometer of progress.

Meanwhile the collection of funds will continue, but not at the expense of the insurance companies. They revised their rates, as of April, 1943, thus passing the bulk of the expense for the centre back on industry, which in turn is in a position to pro rate the cost down to the individual who was to be so greatly benefited, at no expense to himself, by the centre.

And while the Labor Department invested in real estate, Rhode Island hospital, a private agency, gave over 25,000 treatments to 903 patients through its physical therapy department, and nearly 5,000 treatments to 251 patients referred to its occupational therapy division, and the Bureau for the Handicapped, a voluntary agency in Providence, rendered occupational therapy to more than 300 patients. How many of all these patients, if any, might have been treated at the State curative centre is not known, but it is reasonable to assume that some of them might have been referred there.

In a day when proponents of social security are advocating the administration of health programs by federal and state governments the curative center development offers a fine illustration of what the public may expect. Careful, progressive planning gives way to costly operations which indicate future costly administrative outlays, with the burden of expense rapidly shifted to the worker who in turn must speculate on when and how he is to be benefited under the program.

PROPER DIET AND TEETH

Food rationing has probably done far more to focus attention upon nutrition and its allied problems than any educational program could do in years of effort. It is appropriate, therefore, that dentistry take a more active interest in the entire field of nutrition, and in so far as possible participate in the development of programs having such an important bearing on preventive dentistry.

A report released recently by the medical department of a national life insurance company relates that 9 out of 10 American children have one or more decayed teeth by the time they reach the age of six years. Between the ages of six and eighteen, those

continued on next page

who made the study report, the average American child develops one additional decayed tooth each year.

However, proper food with severely limited sweets, or scientifically administered supplementary vitamins and minerals where diet is bad, and enough but not too much of the chemical element fluorine, have all been shown in various experiments with hundreds of children to reduce tooth decay. Diets containing whole grain breads and cereals, adequate meats, vegetables and fruits, sufficient milk, and cod liver oil have been tested in various medically supervised experiments covering two or more years. Compared with children in other groups eating the average American diet with its load of refined starches and sweets, and mushy foods that require little chewing, the contrast has been striking, with the reduction in tooth decay as high as 80% or more in some of the experiments.

CARE OF THE TUBERCULOUS VETERAN

Dr. Louis I. Dublin's remarks at the recent annual luncheon of the Rhode Island Tuberculosis Association deserve more widespread comment than they have received. We must stop and ponder about 10,000 veterans of the last war being admitted and discharged each year from the Veterans' Tuberculosis Hospitals. We must be gravely concerned with the inability of the Veterans' Hospitals to administer their tuberculosis program more successfully. His advice to health authorities to focus attention upon the ineptitude in the past and to attempt to establish a better exchange of information with the Veterans' Administration is sound and welcome.

The numbers of discharged Veterans suffering from pulmonary tuberculosis poses a problem which transcends the lofty ideals of our legislators in their zeal to secure benefits for the men and women in service. It is commendable that sincere efforts are being directed toward making the return of the serviceman a happy one. We know that the people at home will be waiting to help the millions who will return sound in mind and body; we must depend upon them to aid these veterans in returning to a normal way of living. Our sympathies go out to all servicemen. Practical thinking, however, should lead us to give graver consideration to those who will return with their health impaired.

There is no doubt in the minds of many public health authorities that the number of tuberculosis veterans of the present conflict will exceed that of the First World War. We know that the severe conditions which many of these service men and women will have to endure will tax the reserve of their healthy bodies. The enervating heat of the tropics, the oppressing cold of the northern zones, the sleepless nights, the damp foxholes,—all will surely cause some of the primary infections to undergo decalcification with a resultant spread of the tuberculosis in the exhausted body. The high physical standards so judiciously set up by Selective Service will serve to keep the incidence of tuberculosis at the lowest possible level. However, the scope and duration of the war, together with the large numbers of American youth engaged, will inevitably make tuberculosis a definite major problem distinct from other service connected disabilities.

This is an all-important factor in the cure of tuberculosis. It is conceivable that many of the veterans will find it more convenient to receive treatment by and through their local health authorities. The veterans' facilities will be so burdened with traumatic disabilities that tuberculosis with its long course may not be able to find retreat in them. The local tuberculosis authorities are ever ready to aid the veteran in receiving his treatment wherever he finds it to his advantage. It is not enough for the Veterans' Administration to make the information available on request. It is highly probable that in a large percentage of cases many months will have elapsed before the local authorities become acquainted with the diagnosis. The obligation of the Veterans' Administration, in tuberculosis at least, goes beyond making records available. Clerical red tape in tuberculosis will cost the government billions of dollars, and possibly many lives, and surely many months of good health to the tuberculosis veteran. It would be a high tribute to the efficiency of the Veterans' Administration if it would formulate some method to furnish the local health authorities with the diagnosis as soon as the disease is discovered.

A solution to many problems might be found if the government would set up a post-discharge examination center conducted by private medical men much the same as the pre-induction centers which are operating so creditably. Such a post-exchange board of examiners could serve a double function of classifying the individual as to the type of disability and forwarding his problem to the particular local agency which is interested in his rehabilitation.

RHODE ISLAND STATE DENTAL SOCIETY

ARTHUR M. DRING, D.M.D., *President*
EARL B. KEIGHLEY, D.M.D., *President-Elect*
WILLIAM S. GEE, D.M.D., *Vice President*
CHARLES F. MCKIVERGAN, D.M.D., *Secretary*
JAMES C. KRASNOFF, D.M.D., *Treasurer*
HAROLD F. DOYLE, D.M.D., *Librarian-Curator*
NORMAN H. FORTIER, D.M.D., *Editor*

TESTIMONIAL TO DR. A. L. MIDGLEY

On April 19 members of the Society, together with a host of friends including outstanding leaders in the civic, professional and business life of the State, tendered a testimonial dinner to Dr. Albert L. Midgley of Providence in honor of his 35 years of continuous service on the R. I. Board of Examiners in Dentistry, and for his many notable contributions to the advancement of the profession. The testimonial was sponsored by the board of dental examiners.

Characterized as one of the greatest contributors to the forward progress of dentistry during the past three decades by Dr. William J. Gies, Dr. Midgley was lauded also by Governor J. Howard McGrath, Acting Mayor of Providence William A. Cahir, Dr. Arthur M. Dring, president of the Society, Dr. Edward A. McLaughlin, state director of health, Dr. Ambrose Lynch, who also brought the greetings of the Elks, John J. Crimmings, and Dr. Basil G. Biby, dean of Tufts College Dental School.

The program was highlighted further by the presentation of a framed testimonial to Dr. Midgley by Dr. Ernest A. Charbonnel, director of the Joseph Samuels Dental Clinic for Children, in behalf of the Society and the Board of Examiners in Dentistry.

SHORTAGE OF HYGIENISTS

In these days of extra effort there is an increased need for dental hygienists. The opportunity of relegating prophylactic work to the hygienist enables the dentist to give many more of his valuable hours to satisfy the public need for dental attention, either palliative or reconstructive.

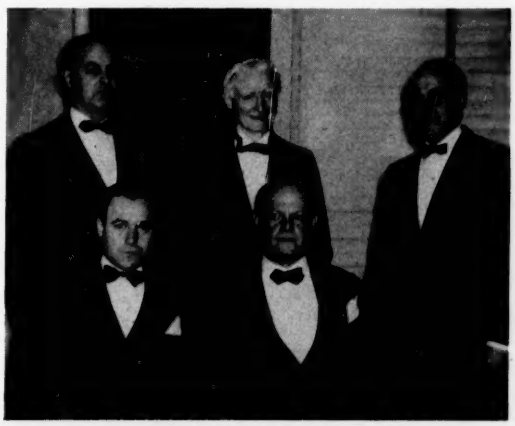
The officers of the Society are interested in the possibility of a survey of the State to determine the need for hygienists on the basis of the possibility of dentists employing such personnel. Therefore members are urged to write to the Secretary, at 102 Waterman street, Providence, stating whether or not they would hire a hygienist permanently if such trained assistants were available. On the basis of such information the officers would be in a position to formulate some program for publicizing the need and would also be in a position to develop a plan to encourage high school graduates to consider careers as dental hygienists.

FROM THE SECRETARY'S DESK

Dr. Edward C. Morin, chairman of the Horace Wells Centennial Committee, has announced the appointment of Dr. Walter F. Tompkins of Providence and Dr. James F. Colgan of Pawtucket to serve as members of the committee.

Dr. Fred H. Dotolo, of Westerly, was recently installed as Exalted Ruler of Westerly Lodge of Elks, succeeding William Donovan.

Captain Sarkis Shagalian, DC, of Cranston, called to active duty three years ago, was home recently on furlough from his post in Greenland.



At the testimonial dinner to DR. ALBERT L. MIDGLEY in honor of his 35 years of continuous service on the Rhode Island Board of Examiners in Dentistry.

Seated — Hon. J. Howard McGrath, Governor of Rhode Island; Dr. Midgley.

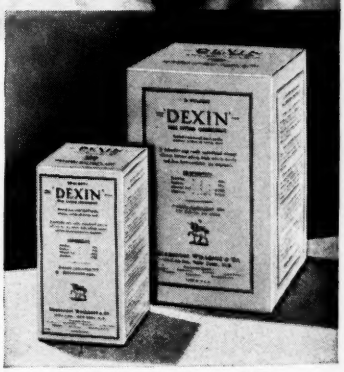
Standing (l. to r.) — Hon. William A. Cahir, Acting Mayor of Providence; Dr. William J. Gies, Professor of Biochemistry, Columbia University, College of Physicians and Surgeons; and Dr. Ernest A. Charbonnel, director, Joseph Samuels Dental Clinic for Children.

Good appetite is a precious thing. All healthy babies are born with one. Like many precious things, it must be preserved and cultivated by good care and proper foods.

'Dexin', a high dextrin carbohydrate food for infant feeding, is not oversweet and will not dull a good appetite—a major consideration for any baby's well being. Following the early use of 'Dexin', the addition of other bland foods to the diet is more easily accomplished.

The high dextrin content of 'Dexin' promotes (1) the formation of soft, flocculent, easily digested curds, and (2) diminishes intestinal fermentation and the tendency to colic and diarrhea. 'Dexin' is readily soluble in hot or cold milk.

'Dexin' Reg. U. S. Patent Office



'Dexin' does make a difference

COMPOSITION

Dextrins	75%	Mineral Ash	0.25%
Maltose	24%	Moisture	0.75%
Available carbohydrate	99%	115 calories per ounce	

6 level packed tablespoonfuls equal 1 ounce

'DEXIN'

HIGH DEXTRIN CARBOHYDRATE

ACCEPTED AMERICAN MEDICAL ASSN.

Literature on request

BURROUGHS WELLCOME & CO. (U.S.A.) INC. 9-11 E. 41st St., New York 17, N. Y.

PROCUREMENT AND ASSIGNMENT SERVICE FOR NURSES

MILDRED L. HATTON, R.N.

The Author. *Mrs. Mildred L. Hatton, R.N., Assistant Director, Providence District Nursing Association; Chairman, State Procurement and Assignment Committee for Nurses.*

IN order to meet the military needs for nurses and to adequately protect the health of the civilian population, a Procurement and Assignment Service for Nurses under the War Manpower Commission has been set up in the state of Rhode Island as well as in every other state in the Union.

This group has been directed by the War Manpower Commission in Washington to make a study of the nursing needs and resources of the state in an effort to determine *which* nurses in *which* positions in *which* agencies are essential. The armed forces have a priority right on nurses; the remaining nurses must be equitably divided among the non-military governmental agencies and *essential* civilian nursing services. A fair distribution can only be accomplished by a withdrawal of nurses for military service on a selective basis and the best use of the remaining nurses where they are most needed. Resources for meeting civilian needs not only include nurses now actively employed but also inactive nurses, nurses working in non-nursing positions, student nurses, nurses' aides, other volunteers, and paid auxiliary workers.

An effort is being made to have every nurse serve in the position where she is most needed and where her abilities may be used to the fullest. Every nurse is given a *classification* made on the basis of her age and her family situation, as well as on the position which she holds. If a nurse is in Class I, she is available for military service; In Class II, she is available for relocation; In Class III, she is essential for a limited duration or until replaced; In Class IV, she is essential for an unlimited duration.

To help facilitate the important work of supplying and distributing nurses, the State Committee on Procurement and Assignment has appointed subcommittees to work in the local areas. These Local Committees have full responsibility for classifying all nurses within their areas and they also are consultant bodies, empowered to listen to all the problems concerning nursing service in the area. After a nurse has been classified by the Local Committee, a report is sent to the State Committee for final approval. In a situation where the nurse or the employer does not approve of the classification, either the nurse or the employer or both may appeal to, or appear before, the State Committee involved for a rehearing of the factors.

Nurses are subject to the same provisions of the employment stabilization program which applies to other workers in other essential activities, and they may not change their positions without securing statements of availability from the local United States Employment Service. No nurse should be employed without this statement of availability.

Any doctor having a problem relative to the availability of nurses for civilian or for war service should communicate with the chairman of the local committee in his area. These chairmen are as follows: Newport area—Mrs. Mary Noonan, 98 Champlin Place, North, Newport; Pawtucket area—Mrs. T. Edward Aldham, 149 Center Street; Rumford; Providence area—Mrs. Elvera Richardson, 192 Angell Street, Providence; Warwick area—Miss Florence L. Tanner, 30 Rolfe Street, Cranston; Westerly area—Miss Ethel Angilly, R.F.D. No. 71, Saunderstown; Woonsocket area — Mrs. Alice Lamoureux, 36 Manville Road, Cumberland Hill.

"We Guarantee our appliances to fit"

Abdominal Belts — Trusses, Corsets
Sacro Iliac Belts — Elastic Stockings
Spinal Braces — Wheel Chairs
Hospital Beds, Arch Supports Etc.

Male and Female Attendants

Phone Dexter 8980

H. MAWBY CO., INC.

Makers of Surgical Appliances

63 Washington St. Providence, R. I.

DIRECTIONS—TO be used only by, or on prescription of, a physician.

. . . it's your prescription, Doctor,

WHEN VITAMIN D IS ESSENTIAL

THESE ***Brewer*** *PRODUCTS ARE INDICATED*

For Higher Potency Requirements

HI-DERATOL

200,000 U.S.P. UNITS VITAMIN D

per capsule—obtained from activated ergosterol (Hebo Process) in a pure, edible vegetable oil; ***and per ampul***—activated ergosterol (Hebo Process) in cotton seed oil. (Each ampul contains a sufficient amount to permit withdrawal and use of 1 cc.)

Supplied—for oral use (on prescription only) one hundred capsules for $14.40—for injection (a sterile intramuscular solution), twelve ampuls for $4.15 (each ampul containing a sufficient amount to permit withdrawal and use of 1 cc.)

For High Potency Requirements

DERATOL

50,000 U.S.P. UNITS VITAMIN D

per capsule and per ampul—obtained from activated ergosterol (Hebo Process) in cotton seed oil.

Supplied—For oral use (on prescription only), one hundred capsules for $4.50—for injection (a sterile intramuscular solution), twelve ampuls for $2.90 (1 cc. size).

Literature and physician's sample sent on request

BREWER & COMPANY, INC.

Pharmaceutical Chemists Since 1852

WORCESTER MASSACHUSETTS

DISTRICT SOCIETY MEETINGS

THE WASHINGTON COUNTY MEDICAL SOCIETY

The regular meeting of the Washington County Medical Society was held April 12th at the Elm Tree Inn, Westerly. After a short business meeting Mr. John E. Farrell, Executive Secretary of the Rhode Island Medical Society, gave an interesting talk on some phases of Health Security in Rhode Island.

He discussed problems which face the medical profession and explained how the Rhode Island Medical Society is endeavoring to meet some of these issues.

At the close of the meeting luncheon was served.

JULIANNA R. TATUM, M.D., *Secretary*

PAWTUCKET MEDICAL ASSOCIATION

A regular monthly meeting of the Pawtucket Medical Association was held at Memorial hospital on April 20. In the absence of President Edward H. Trainor, Dr. Joseph Doll presided.

After a discussion of the development of the Association's radio program with utilization of material available through the executive office of the State Society, Dr. Charles L. Farrell discussed briefly the scope of the industrial health program, and also commented on what the Providence Chamber of Commerce is doing in regard to the development of industrial health activities.

MARY E. J. ROHR, M.D.

PROVIDENCE MEDICAL ASSOCIATION

A regular meeting of the Providence Medical Association was held at the Medical Library on Monday, April 3, 1944.

The President reported that the committee of Dr. Louis I. Kramer and Dr. Ezra Sharp had submitted the Association's tribute to the late Dr. Irving Blazar and that it had been placed on permanent file with the records of the Association.

The Secretary reported that the Executive Committee recommended for election to membership in the Association Dr. Walter E. Batchelder now in service with the armed forces. On the motion of Dr. Jesse E. Mowry, Dr. Batchelder was unanimously elected to active membership.

The President introduced as the guest speaker of the evening Dr. Donald C. Anderson, Research Fellow in Medicine, Evans Memorial Hospital and Instructor in Medicine, Boston University School of Medicine who spoke on the topic "Clinical Experience with Penicillin".

Dr. Anderson made interesting comments on these cases. The opportunity for our membership to obtain first-hand information on this new and wonderful drug was greatly appreciated.

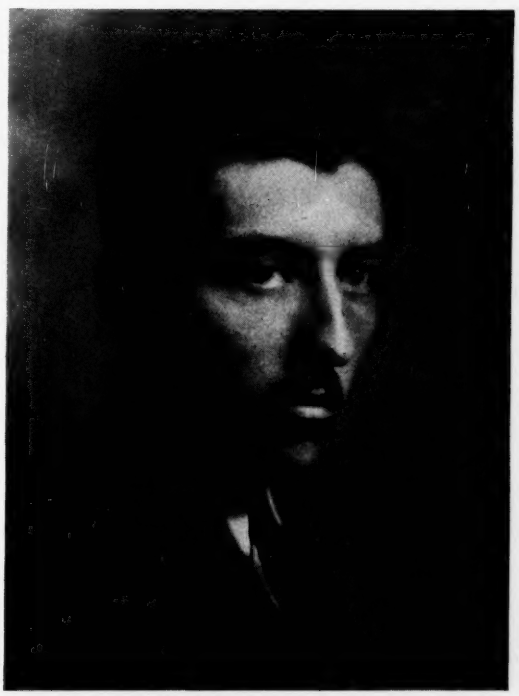
The meeting adjourned at 11:45 P. M.

Collation was served.

Attendance 105.

Respectfully submitted,

FRANK W. DIMMITT, M.D., *Secretary*



EDWARD H. TRAINOR, M.D.

President of the Pawtucket Medical Association—1944

Program - - 133rd Annual Meeting

RHODE ISLAND MEDICAL SOCIETY

May 24-25, 1944 — *R. I. Medical Library, Providence*

WEDNESDAY, MAY 24

At R. I. Medical Library, Providence

2:15 P.M. CALL TO ORDER
WELCOME BY PRESIDENT, Michael H. Sullivan, M. D.
RECOGNITION OF DELEGATES from other State Medical Societies

2:30 P.M. "VIRUS INFECTIONS"
Paul C. Cook, M. D. of Providence

2:50 P.M. "RESULTS IN TREATMENT OF 60 CASES OF MALARIA, AND A REVIEW OF 100 CASES OF FILARIASIS"
Comdr. Clarence C. Fuller, MC, USNR, of Newport Naval Hospital

3:20 P.M. INTERMISSION TO VISIT EXHIBITS

3:40 P.M. "PLANNING FOR MEDICAL CARE"
James R. Miller, M. D. of Hartford

4:15 P.M. "SICK HEADACHES"
Walter C. Alvarez, M. D. of Mayo Clinic, Rochester, Minnesota

5:30 P.M. SOCIAL HOUR AT BILTMORE HOTEL—

Walter C. Alvarez, M.D.

* * * * *

Reginald Fitz, M.D.

9:00 P.M. At the Medical Library
The Charles V. Chapin Oration
"FORECAST BY NUMBERS"
Reginald Fitz, M. D. of Boston

THURSDAY, MAY 25

At Peters House Auditorium, Rhode Island Hospital

10:30 A.M. PRESENTATIONS FROM STAFFS OF HOSPITALS OF RHODE ISLAND

B. EARL CLARKE, M.D., *Chairman*

10:30 Charles V. Chapin Hospital
Edward J. West, M.D.
"Toxic Manifestations of Sulfa Drugs"

10:40 State Hospital for Mental Diseases
John F. Regan, M.D.
"The Development of the State Hospital for Mental Diseases"

10:50 Pawtucket Memorial Hospital
Henry B. Moor, M.D.
"Indications for and Methods of Skin Graft"

11:00 South County Hospital
Samuel Nathans, M.D.
"Caudal Anesthesia"

11:10 St. Joseph's Hospital
Vincent J. Oddo, M.D.
"A Rare Case of Suppression of Urine"

11:20 Emma Pendleton Bradley Home
Charles Bradley, M.D.
"Modifying the Behavior of Convulsive Children"

11:30 Lying-In Hospital
Maurice Adelman, M. D.
"Report of a Case of Erythroblastosis in One of Twins"

11:40 Woonsocket Hospital
Francis J. King, M.D.
"Surgery After the Seventh Decade"

11:50 Homeopathic Hospital
E. Victor Conrad, M.D.
"The Pre and Post Operative Treatment of Neoplastic Obstruction of the Colon"

12:00 Newport Hospital
Samuel Adelson, M.D.
"Appendicitis Complicating Measles"

12:10 Rhode Island Hospital
Alex M. Burgess, M.D.
"Recent Experience With Pneumonia"

12:20 Butler Hospital
Arthur H. Ruggles, M.D.
"The Development of Medical Work at Butler Hospital Over a Period of One Hundred Years"

1:00 P.M. LUNCHEON AT HOSPITAL

* * * * *

At the Rhode Island Medical Library

2:00 P.M. "COMBAT SURGERY IN THE PACIFIC AREA, WITH A DISCUSSION OF BRAIN INJURIES"

Lt. Comdr. Hannibal Hamlin, MC, USNR, of Newport Naval Hospital

2:30 P.M. "DIAGNOSTIC AND THERAPEUTIC CONSIDERATIONS IN ANTERIOR POLIOMYELITIS"

William T. Green, M. D. of Boston

William T. Green, M.D.

3:00 P.M.

Richard B. Cattell, M.D.

"PROGRESS IN THE SURGERY OF THE GALL BLADDER AND THE BILE DUCT"

Richard B. Cattell, M. D. of Lahey Clinic, Boston

3:30 P.M. INTERMISSION TO VISIT EXHIBITS

3:45 P.M. "MALARIA", J. B. Rice, M. D. of New York City

4:30 P.M. PRESIDENTIAL ADDRESS
Michael H. Sullivan, M. D. of Newport

5:00 P.M. INSTALLATION OF NEW OFFICERS

J. B. Rice, M.D.

Program - - First Annual Meeting

RHODE ISLAND SOCIETY OF INDUSTRIAL PHYSICIANS AND SURGEONS, INC.

and the

RHODE ISLAND INDUSTRIAL NURSES' CLUB, INC.

Rhode Island Section Meeting of the New England Conference of Industrial Physicians and the New England Industrial Nurses' Association

TUESDAY, MAY 23

At the Rhode Island Medical Library

10:00 A.M. Greetings:

Charles L. Farrell, M. D., President, R. I. Society of Industrial Physicians and Surgeons

Helena C. Mahoney, R.N., President, R. I. Industrial Nurses' Club

10:10 A.M. "CHILD LABOR DURING WAR TIME"

Beatrice McConnell, Director, Industrial Division, Children's Bureau, U. S. Dept. of Labor

10:30 A.M. "R. I. CASH SICKNESS BENEFIT, REPORT OF FIRST YEAR OF OPERATION"

Mortimer W. Newton, Chairman, R. I. Unemployment Compensation Board

10:50 A.M. Subject to be Announced

Daniel L. Lynch, M. D., Medical Director, New England Telephone and Telegraph Company, Boston; President, N. E. Conference of Industrial Physicians

11:10 A.M. "INDUSTRIAL OPHTHALMOLOGY"

Speaker to be Announced

11:30 A.M. "HOSPITALIZATION AND CASH SICKNESS INSURANCE SPONSORED BY INDUSTRY"

Orlen J. Johnson, M. D., Council on Industrial Health, American Medical Association

12:00 Noon RECESS FOR LUNCH

1:00 P.M. "OCCUPATIONAL DERMATOSES IN RHODE ISLAND INDUSTRIES"

Louis Schwartz, Medical Director, U. S. Public Health Service; Chief, Dermatoses Section, Division of Industrial Hygiene

2:30 P.M. "THE MEANING OF INDUSTRIAL MEDICINE, HYGIENE, and HEALTH"

C. O. Sappington, M. D., Dr. P. H., Editor, *Industrial Health*

3:10 P.M. "TRENDS IN INDUSTRIAL NURSING"

Catherine Dempsey, R.N., President, American Association of Industrial Nurses

3:30 P.M. Symposium:

"RECONDITIONING OF DISABLED WAR VETERANS AND THEIR ASSIMILATION BY INDUSTRY"

Arranged by Office of the Surgeon, Armed Service Forces, First Service Command

8:30 P.M. Annual Business Meeting

R. I. Society of Industrial Physicians and Surgeons and R. I. Industrial Nurses' Club

---

EXHIBITORS AT THE

133rd ANNUAL MEETING OF THE RHODE ISLAND MEDICAL SOCIETY

and at the

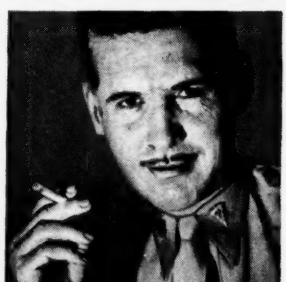
1st ANNUAL MEETING OF THE RHODE ISLAND SOCIETY OF INDUSTRIAL PHYSICIANS AND SURGEONS, AND THE RHODE ISLAND INDUSTRIAL NURSES' CLUB

Space	*Name*
1	Davies, Rose & Company, Ltd.
2	Philip Morris & Company, Ltd.
3	Eli Lilly & Company, Inc.
4	The Borden Company, Inc.
5	White Laboratories, Inc.
6	Boss & Seiffert Company, Inc.
7	Mead Johnson & Company
8	The Claflin Company
9	Coca-Cola Bottling Company of R. I.
10	Burroughs Wellcome & Company
11	Eastern Scientific Company
12	Winthrop Chemical Company
13, 14 & 15	Wyeth, Incorporated
16	Sharp & Dohme, Inc.
18	Scientific Sugars Company
19	Mine Safety Appliances Company
20	Ortho Products Inc.
21	Poloris Company, Inc.
22	Owens-Corning Fiberglas Corp.
24	Brewer & Company, Inc.
25	Acousticon Institute of Providence
26	Smith Kline & French Laboratories
27	Smith-Holden Company

Marshal of Mercy

In war, even more than in peace . . . dispenser of blessed relief . . . his the precious power over pain.

Long hours the medical officer toils . . . routinely yet heroically . . . without thought of citation . . . grateful for brief moments of relaxation . . . for the cheer of an occasional smoke. And likely as not, his cigarette is Camel, the favorite brand in the armed forces* . . . first choice for smooth mildness and for pleasing flavor. It's what every fighting man deserves . . . that extra measure of Camel's smoking pleasure.



1st in the Service

*With men in the Army, Navy, Marine Corps, and Coast Guard, the favorite cigarette is Camel. (Based on actual sales records.)

Camel COSTLIER TOBACCOS

New reprint available on cigarette research—Archives of Otolaryngology, March, 1943, pp. 404-410. Camel Cigarettes, Medical Relations Division ,One Pershing Square, New York 17, N. Y.

DOCTORS AT WAR

ALONG THE LEDO ROAD

A feature story by an Associated Press writer recently reported the work of some of the 48th Hospital Unit somewhere along the Ledo road which American GIs are carving through the Burma jungle. The account listed in detail many of the difficulties the Rhode Island doctors are facing in that area. With the Burma invasion in full swing Rhode Islanders have a deep interest in the battles now ranging in that theater of operations, and the reports of possible severance of the railroad north of Imphal, which would presumably cut off the supplies to the men, except by air transport, cause no little concern. There is reason to believe that the Unit is probably on detached service by now, working as small groups attached to various military formations strengthening the route to China.

AWAITING THE WESTERN INVASION

We continue to hear from our doctors in England, and apparently all of them are keenly aware of the struggle ahead, and of the work which faces them. One of the latest to report is MAJOR SIMON ALBERT, MC, who spent his first year of overseas service in the northern stretches of Iceland, just below the Arctic Circle. Dr. Albert's unit is reported to be enjoying an enviable reputation among the station hospitals, and it has been engaged in the care of battle casualties.

CAPTAIN VINCENT A. BIANCHINI, MC, who has been in the British Isles for a year and a half, reports that he has been working with colleague from Rhode Island, MAJOR ANACLETO BERRILLO, MC. A more recent arrival in that area is CAPTAIN WILLIAM HINDLE, MC, son of the superintendent of the C. V. Chapin Hospital. Captain Hindle completed a course of lectures under Dr. Watson Jones in London in January, and then returned to active duty with his station hospital.

ON THE PACIFIC ISLANDS

After taking part in the Marshall Islands invasion LIEUT. NICHOLAS POURNARAS, MC, USNR, former Block Island physician, was reported enjoying a well earned rest at Hawaii. From the New Guinea area have come messages from CAPTAIN MORRIS BOTVIN, MC, MAJOR DAVID LITCHMAN, MC, who is chief of medical service with his hospital unit, and CAPTAIN MARK A. YESSIAN, MC, who reports that he is receiving our *Journal* and is deriving much pleasure from reading of the activities of the Society and of the other doctors who are stationed on the many war fronts.

Our last reports from Lt. Col. Harold Rogell, MC, commanding officer of a station hospital, placed him among one of the most forward units in combat in the New Guinea area.

ACROSS THE NATION

CAPTAIN PHILIP S. GELLER, MC, reporting from Dibble General hospital in Menlo Park, California, where he is chief of the septic surgery section, calls our attention to the fact that he has been promoted to the rank of Captain. Dr. Geller has completed an 18 month tour of duty in Iceland.... CAPTAIN EMIL A. KASKIW, MC, of Woonsocket, is now stationed at Camp Ellis in Illinois.... LIEUT. MAURICE N. KAY, MC, has been transferred from the 114th to the 54th Station Hospital but he is still stationed at Fort Bragg.... MAJOR MORRIS L. GROVER, MC, sends us words of appreciation for the many courtesies extended to our doctors in Service, and also reports enthusiastically on the *Journal*....

continued on page 239

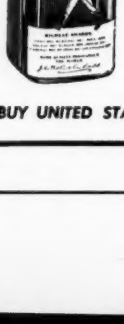
A BORN LEADER—
THAT'S
JOHNNIE WALKER

BORN 1820
Still going strong

Its unrivaled smoothness and distinctive flavour makes Johnnie Walker a leader among scotches.

Popular Johnnie Walker can't be everywhere all the time these days. If occasionally he is "out" when you call . . . call again.

JOHNNIE WALKER



BLENDED
SCOTCH WHISKY

RED LABEL
BLACK LABEL

Both 86.8 Proof

Canada Dry Ginger Ale, Inc.
New York, N. Y.
Sole Importer

BUY UNITED STATES WAR BONDS AND STAMPS

AN INTERNE LEARNS OF PENICILLIN

continued from page 219

Convincing proof that this excretion was carried out by the kidney was offered in comparing two series of cases, one of which had normal functioning of kidneys while the other group was plagued with one or more kinds of kidney pathology. Invariably the patients with the diseased kidney would maintain an effective concentration considerably longer than their more healthy compatriots. The obvious inefficiency of this repeated intravenous injection was easily overcome in a short time by instituting a continuous drip of penicillin in saline or glucose at such a rate that the patient was receiving about 5000 units per hour. Using this method it was felt that the optimal concentration could be maintained for the greatest period of time.

The third and probably most widely used method as set forth by Dr. Anderson consisted of repeated intramuscular injections of 10-15 thousand units every three hours. This method produces a rapid rise in blood concentration which reaches a maximum in 15 to 20 minutes, remains more or less stationary for about one-half hour and then gradually falls off until a trace can be detected.

In applying these methods of administration to the various cases it was brought out that probably the best route would be by constant intravenous drip to a very sick patient, until he appeared out of danger, after which repeated intramuscular injections might be started.

Use of Drug in Local Infections

As for the proper method of dealing with meningitis or other local infections when one is dealing with penicillin it is still undecided. Each case must be decided on its own merits. Very few cases have been selected in which intraspinal injection has alone been tried and the majority of those that have been fortunate enough to receive the drug have usually had it both locally and parenterally, as well as in many cases receiving sulfonamide treatment at the same time. With such therapy it is obvious how difficult it might be to evaluate which of the drugs or methods of administration is the cause of the cure.

After this enlightening discussion, Dr. Anderson went on to discuss the bacteria affected and those not affected. In short, it might be said that the drug seems to be effective mainly against gram + bacteria, having known influence on only two gram — cocci, namely the meningococcus and gonococcus.

continued on page 239

AN INTERNE LEARNS OF PENICILLIN

continued from page 236

In fact in the list of organisms which he named as being affected by the drug these two were the most susceptible. Following in order of susceptibility were the hemolytic streptococcus, pneumococcus, staphylococcus, streptococcus, viridans and the large gram + bacteriae with the staphylococcus being about 1/10 as susceptible as the gram — organisms.

The reactions encountered with the drug may be dismissed with but a word and seem to consist of those minor ones attendant upon other drug toxicity.

Just how far this drug is going to go toward curing otherwise incurable diseases it is hard to say. However it seems fair to say that once the production of this drug has reached more than "pilot plant" production and when it is available for civilian use, many cases which do not respond to the usual sulfonamide treatment will be found to be cured or at least greatly helped by penicillin.

The remainder of the program was devoted to the presentation of cases by representatives of the various hospitals with comments by Dr. Anderson.

DOCTORS AT WAR

continued from page 235

WITH THE NAVAL FORCES

COMDR. EDWIN VIEIRA, MC, USMC, is one of five Rhode Island doctors holding that commission. Dr. Vieira was in the first class organized for Naval Reserve officers in aviation medicine at Pensacola, graduating from that group as a flight surgeon.... LT. COMDR. CHARLES HANSON, MC, USNR, for a long time stationed at Newport Naval hospital, is now reported as commanding officer of a mobile hospital in the South Pacific.... LT. COMDR. JARVIS D. CASE, MC, USNR, is now in charge of the epidemiological unit at the Naval Operating Base at Norfolk, and at not too distant Williamsburg, at the Naval Construction Training Center, LT. COMDR. BANICE FEINBERG, MC, USNR, is busy in the control of contagious diseases.... LIEUT. RAYMOND LUFT, MC, USNR, of Warwick, was assigned to ship service within a month following his enlistment, and he now has a Fleet P. O. number.... LIEUT. REGINALD ALLEN, MC, USNR, is located in Washington, D. C. on general duty.

14,669 *Babies!*

That's how many babies **were born in Rhode Island last year —which means that many more lives to be guided toward proper physical development and health, with you — THE DOCTOR — as the chief guide.**

YOU recognize the importance of fine, pasteurized milk in the healthful development of bones, teeth, blood, skin, and tissues. Particularly valuable in the dietary is A. B. MUNROE DAIRY'S "Grade A" Homogenized soft curd milk. Homogenization produces a really soft curd, a uniform distribution of constituents and a smooth, delicious flavor. For infant feeding and for growing children the logical choice is

"GRADE A"

HOMOGENIZED MILK

as Produced by the

A. B. Munroe Dairy

102 Summit St. East Providence, R. I.

Tel.: East Providence 2091

Certified Milk

The War Food Administration of the U. S. Department of Agriculture says *"milk does more for the body than any other food. It provides high quality protein, calcium, and Vitamins A and G cheaply."*

CERTIFIED MILK contains the maximum available vitamins commonly found in milk — it possesses valuable proteins — it is rich in butterfat and carbohydrates — and it is the best source of the indispensable minerals, calcium and phosphorus. Certified possesses all these superior dietary attributes because of the nutritional control exercised in its production, under the supervision of the Milk Commission of the Providence Medical Association.

Always Specify

CERTIFIED MILK

PRODUCED BY	DISTRIBUTED BY	
Cherry Hill Farm	H. P. Hood Co.	DE 3024
Fairoaks Farm	Fairoaks Farm	PE 6870
Hampshire Hills Farm	Whiting Milk Co.	GA 5363
Walker-Gordon Lab. Co., Inc.	H. P. Hood Co.	DE 3024
	Whiting Milk Co.	GA 5363

continued from page 216

to be built up rather slowly in the majority of venereally acquired cases. In cases of accidental infection, because the infecting dose is probably massive in character, intradermal and complement fixation tests become rapidly positive.

Gutman[29] has reported that a moderate secondary anemia is common in the early stages of the disease. This observer has also noted the common occurrence of hyperproteinemia, due to large increase in serum globulin, in the various stages of lymphogranuloma but particularly in patients with chronic complications such as rectal stricture. This finding is of differential diagnostic aid before the skin test becomes positive. It is remarkable that this hyperprotenemia remains present for many years and may even be permanent.

Moderate leucocytosis and increased sedimentation rate occur. Frei[2] and Ravaut and Rabeau[30] have observed the occurrence of transitory, falsely positive Wassermann reactions in the early phases of lymphogranuloma.

The clinical picture of lymphogranuloma venereum may give evidence of either an acute or chronic febrile illness, the symptoms of which have been described as minimal in some cases while in others they have appeared marked and prolonged.

Symptoms may occur as follows: headaches, fever, rigors, sweats, chills, anorexia, nausea, vomiting, weakness, loss of weight, and prostration. Also common are muscular soreness and tenderness, joint symptoms, rheumatic pain, either passive or on movement, with or without heat or swelling, and sore throat. Conjunctivitis and rashes may occur.

It has been observed that constitutional manifestations rarely accompany the onset of the anorectal involvement, but as the disease progresses it produces chronic symptoms, including loss of weight, anorexia, insomnia and nervousness.

In the chronic forms of the disease, namely those that have persisted for several months, arthritis occurs in about 10 per cent of the patients.[15] The joints which show greatest predilection for infection have been classified in a descending order of frequency as follows: wrists, fingers, elbows, ankles and knees.[15] Hydrops may occur, with redness of the overlying skin, accompanied by great tenderness. Joint destruction does not occur, however, and full function is ultimately restored if the disease becomes completely quiescent or is cured. In untreated cases of lymphogranuloma venereum, arthritis may persist for years and in some instances become sufficiently severe to require bed rest.

In a brief discussion of differential diagnosis it is interesting to note that lymphogranuloma venereum, presenting various clinical manifestations, especially in the acute stages, has been confused with many acute febrile conditions because of the similarity in signs and symptoms. In fact, this disease has been confused frequently with other members of the venereal disease group and, in certain instances, with tuberculosis, malignant disease, acute rheumatic disease, acute respiratory diseases, and acute enteric disorders. Additional diseases which must be considered in a differential diagnosis of early-stage lymphogranuloma bubo in the inguinal area include Hodgkin's disease, lymphatic leukemia, bacterial infection and tularemia. The occurrence of elephantiasis, if not characteristic, may present difficulties in distinguishing it from granuloma inguinale, malignancy, tuberculosis, dysentery (bacillary or amoebic), filariasis, chancroid, actinomycosis and ulcerative colitis. Proctitis must be thought of where symptoms and lesions occur at the lower end of the intestinal canal. To further complicate the diagnosis, there is a very common occurrence of mixed infections.

Diagnostic Tests

Since 1940, which was the time that Rake, McKee and Shaffer introduced the yolk-sac antigen for use in the intradermal test for lymphogranuloma venereum, many reports have been made on the efficacy of this material over that of human pus and mouse brain.

The technique of testing patients for skin sensitivity to the agent of lymphogranuloma venereum is the same for both antigen and antigen control. This is true also for material prepared from other than the yolk sac.

Previous to injection, the skin of the flexor aspect of the forearm is prepared with alcohol. Following this procedure, specific antigen and antigen control are injected intradermally, and the skin reaction is read at 48 or 72 hours by measuring the diameters of the resulting papules. Any erythema, regardless of its extent, surrounding the point of injection is not considered significant.

With yolk-sac antigen, a papule of 6 x 6 mm., or greater, indicates a positive reaction if the papule produced by antigen control is 5 x 5 mm., or smaller. Standards of interpretation are different for mouse-brain antigen, but are the same for human-bubo-pus antigen.

continued on next page

Certified Milk

The War Food Administration of the U. S. Department of Agriculture says "*milk does more for the body than any other food. It provides high quality protein, calcium, and Vitamins A and G cheaply.*"

CERTIFIED MILK contains the maximum available vitamins commonly found in milk — it possesses valuable proteins — it is rich in butterfat and carbohydrates — and it is the best source of the indispensable minerals, calcium and phosphorus. Certified possesses all these superior dietary attributes because of the nutritional control exercised in its production, under the supervision of the Milk Commission of the Providence Medical Association.

Always Specify

CERTIFIED MILK

PRODUCED BY	DISTRIBUTED BY	
Cherry Hill Farm	H. P. Hood Co.	DE 3024
Fairoaks Farm	Fairoaks Farm	PE 6870
Hampshire Hills Farm	Whiting Milk Co.	GA 5363
Walker-Gordon Lab. Co., Inc.	H. P. Hood Co.	DE 3024
	Whiting Milk Co.	GA 5363

continued from page 216

to be built up rather slowly in the majority of venereally acquired cases. In cases of accidental infection, because the infecting dose is probably massive in character, intradermal and complement fixation tests become rapidly positive.

Gutman[29] has reported that a moderate secondary anemia is common in the early stages of the disease. This observer has also noted the common occurrence of hyperproteinemia, due to large increase in serum globulin, in the various stages of lymphogranuloma but particularly in patients with chronic complications such as rectal stricture. This finding is of differential diagnostic aid before the skin test becomes positive. It is remarkable that this hyperprotenemia remains present for many years and may even be permanent.

Moderate leucocytosis and increased sedimentation rate occur. Frei[2] and Ravaut and Rabeau[30] have observed the occurrence of transitory, falsely positive Wassermann reactions in the early phases of lymphogranuloma.

The clinical picture of lymphogranuloma venereum may give evidence of either an acute or chronic febrile illness, the symptoms of which have been described as minimal in some cases while in others they have appeared marked and prolonged.

Symptoms may occur as follows: headaches, fever, rigors, sweats, chills, anorexia, nausea, vomiting, weakness, loss of weight, and prostration. Also common are muscular soreness and tenderness, joint symptoms, rheumatic pain, either passive or on movement, with or without heat or swelling, and sore throat. Conjunctivitis and rashes may occur.

It has been observed that constitutional manifestations rarely accompany the onset of the anorectal involvement, but as the disease progresses it produces chronic symptoms, including loss of weight, anorexia, insomnia and nervousness.

In the chronic forms of the disease, namely those that have persisted for several months, arthritis occurs in about 10 per cent of the patients.[15] The joints which show greatest predilection for infection have been classified in a descending order of frequency as follows: wrists, fingers, elbows, ankles and knees.[15] Hydrops may occur, with redness of the overlying skin, accompanied by great tenderness. Joint destruction does not occur, however, and full function is ultimately restored if the disease becomes completely quiescent or is cured. In untreated cases of lymphogranuloma venereum, arthritis may persist for years and in some instances become sufficiently severe to require bed rest.

In a brief discussion of differential diagnosis it is interesting to note that lymphogranuloma venereum, presenting various clinical manifestations, especially in the acute stages, has been confused with many acute febrile conditions because of the similarity in signs and symptoms. In fact, this disease has been confused frequently with other members of the venereal disease group and, in certain instances, with tuberculosis, malignant disease, acute rheumatic disease, acute respiratory diseases, and acute enteric disorders. Additional diseases which must be considered in a differential diagnosis of early-stage lymphogranuloma bubo in the inguinal area include Hodgkin's disease, lymphatic leukemia, bacterial infection and tularemia. The occurrence of elephantiasis, if not characteristic, may present difficulties in distinguishing it from granuloma inguinale, malignancy, tuberculosis, dysentery (bacillary or amoebic), filariasis, chancroid, actinomycosis and ulcerative colitis. Proctitis must be thought of where symptoms and lesions occur at the lower end of the intestinal canal. To further complicate the diagnosis, there is a very common occurrence of mixed infections.

Diagnostic Tests

Since 1940, which was the time that Rake, McKee and Shaffer introduced the yolk-sac antigen for use in the intradermal test for lymphogranuloma venereum, many reports have been made on the efficacy of this material over that of human pus and mouse brain.

The technique of testing patients for skin sensitivity to the agent of lymphogranuloma venereum is the same for both antigen and antigen control. This is true also for material prepared from other than the yolk sac.

Previous to injection, the skin of the flexor aspect of the forearm is prepared with alcohol. Following this procedure, specific antigen and antigen control are injected intradermally, and the skin reaction is read at 48 or 72 hours by measuring the diameters of the resulting papules. Any erythema, regardless of its extent, surrounding the point of injection is not considered significant.

With yolk-sac antigen, a papule of 6 x 6 mm., or greater, indicates a positive reaction if the papule produced by antigen control is 5 x 5 mm., or smaller. Standards of interpretation are different for mouse-brain antigen, but are the same for human-bubo-pus antigen.

continued on next page

LYMPHOGRANULOMA VENEREUM

continued from page 243

A typical response of a lymphogranulomatous patient to yolk-sac antigen is easily distinguishable in that the resulting papule in positive reactions has a central induration. The control papule shows slight induration and is less than 5 mm. in diameter.

There is little question concerning the use of the complement fixation test as a valuable aid in the diagnosis of lymphogranuloma venereum, and on the basis of clinical results, this test appears to represent a lower threshold of immunity response than does the intradermal test. This is perhaps the reason that in the course of diminishing immunologic response the complement fixation test may be positive although the skin test is negative.

Reports[31, 32] of the value of the complement fixation test show that approximately 98 per cent of persons with clinical lymphogranuloma are positive when the test is properly performed, and that 95 per cent of normal persons clinically appraised do not give fixation. It has been observed further that 68 per cent of the sera of prostitutes or persons suffering from venereal diseases show positive complement fixation reactions for lymphogranuloma venereum although many of these persons will not exhibit clinical manifestations of this disease. This calls attention to the probable existence of large numbers of latent and potentially dangerous lymphogranuloma venereum infections in persons who are sexually promiscuous. It is important to remember, however, that there is a serologic relationship between the agent of lymphogranuloma venereum and that of psittacosis, atypical pneumonia, trachoma, inclusion conjunctivitis, mouse-pneumonitis, and acute meningo-pneumonitis.[33, 34, 35] Although the occurrence of cross reactions in complement fixation tests complicate the investigation of the extent of lymphogranuloma venereum in the general population, it is less serious than one would be led to suspect because of the relatively rare occurrence of the diseases mentioned and also because of greater variations in clinical manifestations of the different diseases.

Another problem of specificity which faces the clinician today in the accurate interpretation of the results of the complement fixation test for lymphogranuloma venereum is the occasional occurrence of patients with late primary and early secondary syphilis whose sera react with normal yolk-sac constituents and thus give apparent positive reactions. The non-specific nature of such reactions becomes apparent if normal antigen controls are included in the test.

The practical advantages of the complement fixation test include simplicity and rapidity of performance. A single test carried out with adequate controls and using a series of serum dilutions beginning with 1:2 requires no more than 1.6 cc. serum, and a sample submitted for Wassermann test can be employed equally well in the fixation test for lymphogranuloma venereum. There is no necessity for the patient to return a second time as is the case in the reading of the intradermal test. Extensive studies[36] made in a case of accidental laboratory infection indicate that complement-fixing properties may appear in the serum as early in the disease as within a week after the onset of symptoms.

All the indications that have been obtained so far are to the effect that this test is more delicate than the intradermal test.[36, 37] In view of the foregoing, it seems likely that the complement fixation test might prove very useful in comprehensive surveys of the incidence of lymphogranuloma venereum among the general population. In states where serologic tests for syphilis are legally required before marriage, for example, the samples of serum submitted could also be tested for lymphogranuloma venereum, and, where positive reactions are obtained, arrangements might be made for clinical examination and intradermal tests of the donors.

Following this procedure would aid immeasurably in bringing infectious cases of lymphogranuloma under control.

Epidemiology

The epidemiology of lymphogranuloma venereum presents some very interesting problems to both the physician and public health officer.

Exact data on the incidence and distribution of lymphogranuloma venereum are not obtainable because of the unsatisfactory means hitherto available for establishing correct diagnosis and also because of the fact that regulations for reporting this disease have not been provided in the majority of the countries.

In the United States a similar situation exists as seen by the omission of lymphogranuloma venereum in the list of communicable diseases for which notification is usually required by States.[38]

From 1920 to the present the greatest advances in diagnosing lymphogranuloma venereum accurately have been made. With the aid of the Frei test, clinicians in practically every country of the world have come to realize that this disease could be found among the peoples under their care.

continued on page 250

A significant contribution to estrogen therapy

ESTINYL

(ETHINYL ESTRADIOL)

A tablet preparation designed to meet the demand for an oral estrogen capable of providing all the valued benefits of the true natural hormone at a cost comparable to that of synthetic preparations, and yet, extremely well-tolerated. More potent than any other oral estrogen, ESTINYL alleviates menopausal symptoms readily, and bestows a heightened feeling of general well-being.

Average dose consists of two or three ESTINYL Tablets of 0.05 mg. daily for 1 to 2 weeks, after which one tablet daily or every other day may suffice. If symptoms are easily controlled, one ESTINYL Tablet of 0.02 mg. may be found adequate for maintenance therapy. Available in bottles of 30, 60 and 250 tablets.

Literature on Request

SCHERING CORPORATION BLOOMFIELD · NEW JERSEY

BUY EXTRA U. S. WAR BONDS TODAY

LYMPHOGRANULOMA VENEREUM

continued from page 244

During recent years the belief that the occurrence of lymphogranuloma venereum depended to some extent upon high temperature and humid climates has been disproved because of more definite knowledge concerning distribution and incidence of the disease. Although the majority of the reported cases have occurred in males, there seems to be no apparent reason that females should not suffer from lymphogranuloma venereum in about the same proportion. High incident rates are to be expected among prostitutes which influence the occurrence of more cases in the male population. The majority of the cases of the disease are found among those in the most active period of sex life, although cases have been noted in children.[15, 39] Lymphogranuloma is predominantly found among the colored race but such evidence does not justify the conclusion that they are more prone to the disease. The several factors of unhygienic environment usually encountered by this race probably influence the occurrence of a larger number of cases. The fact that there is high evidence of infectiousness of lymphogranuloma for humans makes it important to control the source of the disease as early as possible.

Because there is general susceptibility of persons to lymphogranuloma venereum, methods of control present problems which require the combined cooperation of the physician, patient and health officer. In this disease early diagnosis means that early treatment can be instituted. The early treatment of lymphogranuloma venereum means prevention of further spread of the disease. The infected individual must be controlled, and epidemiological studies should be carried out to discover the source of the infection. The use of general measures such as education in matters of social hygiene and adequate information concerning the aspects of the disease itself are more important.

Treatment

Many therapeutic measures have been employed in the treatment of various clinical manifestations of lymphogranuloma venereum, including the use of antimony, tartar emetic, salts of the heavy metals, arsenic preparations, iodine, topical application of Balsam of Peru to areas of ulceration on the external genitalia or anorectal region, roentgen rays on the groin or rectum, medicated enemas and supportive measures including iron and liver for secondary anemia, salicylates and heat for arthralgia, diet and rest. The use of surgery for aspiration, excision or incision, and drainage of buboes has been carried out extensively, notwithstanding the hazards associated therewith. Other surgical operations which have been performed with various degrees of success include iliostomy and colostomy with or without resection of rectum. Dilatation of rectal strictures has been practiced but for good results only experienced workers should perform such a procedure. Beginning in 1938 efforts were directed towards the evaluation of the sulfonamides in the various clinical manifestations of the disease. In addition to the use of these chemotherapeutic agents clinicians have investigated further the therapeutic results which could be obtained by the use of Frei antigen given parenterally.

Numerous reports have appeared on the use of the sulfonamides in the treatment of lymphogranuloma venereum. At present it appears that sulfathiazole and probably sulfadiazine contribute more effectively to the treatment of the disease than does sulfanilamide. Some of the best results have been obtained at the New York Hospital by Grace[15] who employs sulfathiazole in the early stages of lymphogranuloma venereum as follows:

> 1.5 Gm. administered orally three times daily for two weeks, then 1.0 Gm. three times daily for the next three weeks. A rest period was allowed during the succeeding three weeks after which treatment was resumed, beginning with 1.5 Gm. three times daily as above. In the inguinal cases of lymphogranuloma it was not deemed necessary to employ the drug in a second five-week course of therapy. Results obtained from this treatment of the disease showed a slightly more rapid response to sulfathiazole than was found with sulfanilamide. No toxic reaction was observed in the cases receiving sulfathiazole.

Several reports[15, 40, 41, 42, 43] have appeared in the literature attesting the value of the Frei antigen for the treatment of lymphogranuloma venereum in humans. Gray and Barnes[44] (University of Louisville Medical School) have experimented with both intradermal and subcutaneous methods and obtained good results. The intradermal route was considered the one of choice. Injections of the antigen were administered two or preferably three times a week, and improvement was usually observed within a two- to three-week period. Frei antigen has also been used intravenously by Grace who administered 0.3 cc. yolk-sac antigen every other day for twelve doses as a method of therapy

continued on page 253

LYMPHOGRANULOMA VENEREUM

continued from page 250

for lymph node involvement. The most recent report by Kornblith,[45] in which 3,500 injections were administered to 207 patients, shows striking results in the glandular (bubo) type of the disease, and symptomatic relief was brought about in cases with rectal lesions. Other investigators[46] have used sulfaguanidine for the treatment of the rectal type of the disease but results have not been particularly good. Because of the several different clinical manifestations of lymphogranuloma venereum, treatment must be adjusted to the stage and variety of the disease. At present there is considerable variance of opinion as to what the most desirable treatment methods should be. It should be remembered however, that the sulfonamides are comparatively new drugs, and this is true especially with respect to their use in patients with lymphogranuloma venereum. Nevertheless this group of compounds more closely approaches what at the present time may be judged the ideal therapy for this disease. Perhaps it might be necessary to supplement chemotherapy with specific therapy, i. e., the yolk-sac antigen in order to bring about the best results. As more therapeutic data becomes available it should be easier to determine which drug or drugs produce the most beneficial results.

BIBLIOGRAPHY

1. Wallace, W.: Treatise on Venereal Disease and Its Varieties, Burgess & Hill, London, 1883, p. 371.
2. Frei, W.: *J. A. M. A.* 110:1653, 1938
3. Durand, M.: Nicholas J., and Favre, M.: *Bull. et mem. Soc. med. d. hôp. de Paris* 35:274, 1913.
4. Frei, W.: *Klin Wchnschr.* 4:2148, 1925.
5. Grace, A. W., and Suskind, F. H.: *Proc. Soc. Exper. Biol. & Med.* 32:71, 1934.
6. Rake, G.; McKee, C. M., and Shaffer, M. F.: *Proc. Soc. Exper. Biol. & Med.* 43:332, 1940.
7. Cox, H. R.: *Public Health Rep.* 53:2241, 1938
8. McKee, C. M.; Rake, G., and Shaffer, M. F.: *Proc. Soc. Exper. Biol. & Med.* 44:410, 1940.
9. Rake, G.; Shaffer, M. F.; Grace, A. W.; McKee, C. M., and Jones, Helen P.: *Am. J. Syph., Gonor. & Ven. Dis.* 25:687, 1941.
10. Stannus, H. S.: A Sixth Venereal Disease, Baillière, Tindall and Cox, London, 1933.
11. Bacon, H. E., and Meharg, J. G.: *The Medical World* 53:705, 1935.
12. Torpin, R.; Greenblatt, R. B.; Pund, E. R., and Sanderson, E. S.: *Am. J. Surg.* 43:688, 1939
13. Greenblatt, R. B.: Supplement No. 19 Venereal Disease Information 1943.
14. Grace, A. W., and Henry, G. W.: *New York State J. Med.* 40:285, 1940.
15. Grace, A. W.: *Bull. New York Acad. Med.* 17:627, 1941.
16. Levaditi, C.; Mollaret, P., and Reinie, L.: *Bull. Acad. de méd.* 113:439, 1935.
17. Palmer, W. L.; Kirsner, J. B., and Rodaniche, E. C.: *J. A. M. A.* 118:517, 1942.
18. Bensaude, R.; Lambling, A., et al.: *Proc. Roy. Soc. Med.* 29:1441, 1936.
19. Klotz, H. G.: *Berlin klin. Wchnschr.* 27:132, 153, 176, 1890; through Grace, A. W.: *Bull. New York Acad. Med.* 17:627, 1941.
20. Hellerström, S.: *Acta Derm.-Venereol. Stockholm* 8:394, 1928.
21. Phylactos; through Stannus, H. S.: A Sixth Venereal Disease, *Baillière,* Tindall and Cox, London 1933, p. 53.
22. Ravaut, P., and Scheikevitch: *Bull. et mém. Soc. méd. d. hôp. de Paris* 45:310, 1921.
23. Buschke, A.; Boss, A., and von Vasarhelyi, J.: through Stannus, J. S.: A Sixth Venereal Disease, *Baillière,* Tindall and Cox, London, 1933, p. 54.
24. Harrop, G. A.; Rake, G., and Shaffer, M. F.: *Tr. A. Am. Physicians* 56:101, 1941.
25. Levaditi, C.; Bollack, J.; Basch, G., and Desvignes, P.; through Grace, A. W.: *Bull. New York Acad. Med.* 17:627, 1941.
26. Curth, W.; Curth, H. O., and Sanders, M.: *J. A. M. A.* 115:445, 1940.
27. Chevallier, P., and Bernard, J.; through Stannus, H. S.: A Sixth Venereal Disease, *Baillière,* Tindall and Cox, London, 1933, p. 52.
28. Sabin, A. B., and Aring, C. D.: *J. A. M. A.* 120:1376, 1942.
29. Gutman, A. B.: *New York State J. Med.* 39:1420, 1939.
30. Ravaut, P., and Rabeau: *Ann. de. dermat. et syph.* 3:80, 1922.
31. Grace, A. W.; Rake, G., and Shaffer, M.: *Proc. Soc. Exper. Biol. & Med.* 45:259, 1940.
32. Shaffer, M. F.; Rake, G., and Grace, A. W.: *Am. J. Syph., Gonor. & Ven. Dis.* 26:271, 1942.
33. Francis, T., Jr., and Magill, I. P.: *J. Exper. Med.* 68:147, 1938.
34. Eaton, M. D.; Martin, W. P., and Beck, M. D.: *J. Exper. Med.* 75:21, 1942.
35. Rake, G.; Eaton, M. D., and Shaffer, M. F.: *Proc. Soc. Exper. Biol. & Med.* 48:528, 1941.
36. Harrop, G. A.; Rake, G., and Shaffer, M. F.: *Tr. A. Am. Physicians* 56:154, 1941.
37. Shaffer, M. F.; Rake, G.; Grace, A. W.; McKee, C. M., and Jones, Helen P.: *Am. J. Syph., Gonor. & Ven. Dis.* 25:699, 1941.
38. The Control of Communicable Diseases, Subcommittee on Control of Communicable Diseases of the Committee on Research and Standards of the American Public Health Association, *Pub. Health Rep.* 50:1017, 1935.
39. Lehmann, C. F., and Pipkin, J. L.: *Texas State J. Med.* 29:192, 1933.
40. Prats, G. F.: *Rev. argent. dermatosif.* 28:513, 1939; through *Am. J. Syph., Gonor. & Ven. Dis.* 24:799, 1940.
41. Bercovitz, Z.: *M. Clin. North America* 24:683, 1940.
42. Costello, M. J., and Cohen, J. A.: *Arch. Dermat. & Syph.* 44:391, 1941.
43. Brandt, R., and Greenblatt, R. B.: *South Med. J.* 34:941, 1941.
44. Gray, Layman A., and Barnes, M. L.: *Am. J. Surg.* 48:277, 1940.
45. Kornblith, B. A.: *Am. J. Med. Sci.* 198:231, 1939.
46. Levy, Joseph G.; Holder, Ernest C., and Bullowa, J. G. M.: *Am. J. Digest. Dis.* 9:237, 1942.

a complete unit for approved contraceptive technique

provides for patient comparison of Jelly and Cream (no extra cost)

The Koromex Set Complete contains in a handsome case:

Koromex Diaphragm with special pouch

Koromex Trip Release Introducer (takes all size diaphragms)

Tube Koromex Jelly (higher lubricating factor)

Tube Koromex Cream (lower lubricating factor) formerly H R Emulsion Cream

Set Dickinson-Freret Fitting Charts

Price of Koromex Set Complete is only that of the Koromex Diaphragm and Koromex Trip Release Introducer. Attractively packaged with removable label. To prescribe, just write "Koromex Set Complete" and state size of diaphragm. **Write for literature.**

Holland-Rantos *Company, Inc.*

551 Fifth Avenue, New York 17, N. Y.